SEQUENCE LISTING

<110> Board of Regents, The University of Texas System
Gorenstein, David G.
Luxon, Bruce A.
Herzog, Norbert
Tang, Xian B.

<120> BEAD BOUND COMBINATORIAL OLIGONUCLEOSIDE PHOSPHOROTHIOATE AND PHOSPHORODITHIOATE APTAMER LIBRARIES

<130> UTMB:1024

<140> 10/828935
<141> 2004-04-21

<150> 60/334,887
<151> 2001-11-15

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<151> 2002-10-16

<160> 70

<170> PatentIn version 3.3

<210> 1
<211> 15
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> misc_feature
<223> Description of Artificial Sequence: synthetic oligonucleotide

<400> 1
ggatccggtg gtctg 15

<210> 2
<211> 15
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> misc_feature
<223> Description of Artificial Sequence: synthetic oligonucleotide

<400> 2
cctactcgcg aattc 15

<210> 3
<211> 23
<212> DNA
<213> artificial

<220>
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate

<220>
<221> modified_base
<222> (1)..(23)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23.

<400> 3
cagttgaggg gactttccca ggc 23

<210> 4
<211> 23
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(23)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23.

<400> 4
cctgcacatc tcaggatgac ttt 23

<210> 5
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(22)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 4, 8, 9, 16, 19.

<400> 5
atgtagccag ctagtctgtc ag 22

<210> 6
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(22)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 5, 9, 10, 16, 19.

<400> 6
cgcccagtga aggtggaacc cc 22

<210> 7
<211> 50
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> misc_feature
<223> Description of Artificial Sequence: synthetic oligonucleotide

<400> 7
atgcctactc gcgaattccc aggagattcc acggatccgg tggtctgttc 50

<210> 8
<211> 52
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> misc_feature
<223> Description of Artificial Sequence: synthetic oligonucleotide

<400> 8
cctactcgcg aattcagttg aggggacttt cccaggcgga tccggtggtc tg 52

<210> 9
<211> 18
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> misc_feature
<223> Description of Artificial Sequence: consensus sequence

<400> 9
atgcctactc gcgaattc 18

<210> 10
<211> 18
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> misc_feature
<223> Description of Artificial Sequence: synthetic oligonucleotide

<400> 10
gaacagacca ccggatcc 18

<210> 11
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> misc_feature
<223> Description of Artificial Sequence: synthetic oligonucleotide

<400> 11
ctgtgagtcg actgatgacg gt 22

<210> 12
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> misc_feature
<223> Description of Artificial Sequence: synthetic oligonucleotide

<400> 12
agttgagtcg aaggacccat tt 22

<210> 13
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> misc_feature
<223> Description of Artificial Sequence: synthetic oligonucleotide

<400> 13
cgtcaagtct cagttcccat tt 22

<210> 14
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> misc_feature
<223> Description of Artificial Sequence: synthetic oligonucleotide

<400> 14
agtcaagtcg aagttccacg gt 22

<210> 15
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(22)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 2, 8, 14, 16, 22.

<400> 15
ctgtgagtcg actgatgacg gt 22

<210> 16
<211> 22
<212> DNA
<213> Artificial

<220>

<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(22)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 8, 12, 14, 20, 22.

<400> 16
agttgagtcg aaggacccat tt 22

<210> 17
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(22)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 4, 8, 10, 12, 20, 22.

<400> 17
cgtcaagtct cagttcccat tt 22

<210> 18
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(22)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 4, 8, 12, 18, 22.

<400> 18
agtcaagtcg aagttccacg gt 22

<210> 19
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Artificial oligonucleotide.

<220>
<221> misc_feature
<223> Description of Artificial Sequence: synthetic oligonucleotide

<400> 19
atgtagccag ctagtctgtc ag 22

<210> 20
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> misc_feature
<223> Description of Artificial Sequence: synthetic oligonucleotide

<400> 20
cgccagccaa aggtgctgtc ag 22

<210> 21
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> misc_feature
<223> Description of Artificial Sequence: synthetic oligonucleotide

<400> 21
cgcccagtgg ctagtgaacc cc 22

<210> 22
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> misc_feature
<223> Description of Artificial Sequence: synthetic oligonucleotide

<400> 22
atgtagccga aggtggaacc cc 22

<210> 23

<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> misc_feature
<223> Description of Artificial Sequence: synthetic oligonucleotide

<400> 23
cgccagccga aggtggaacc cc 22

<210> 24
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> misc_feature
<223> Description of Artificial Sequence: synthetic oligonucleotide

<400> 24
atgtagccag ctagtctgtc ag 22

<210> 25
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(22)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 10.

<400> 25
cgccagccaa aggtgctgtc ag 22

<210> 26
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(22)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 5, 9, 16, 17.

<400> 26
cgcccagtgg ctagtgaacc cc 22

<210> 27
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(22)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 9, 10, 16, 17.

<400> 27
atgtagccga aggtggaacc cc 22

<210> 28
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(22)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 10, 11, 17, 18.

<400> 28
cgccagccga aggtggaacc cc 22

<210> 29
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> misc_feature

<223> Description of Artificial Sequence: synthetic oligonucleotide

<400> 29
ggggttccac cttcactggg cg 22

<210> 30
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> misc_feature
<223> Description of Artificial Sequence: synthetic oligonucleotide

<400> 30
ccccaaggtg gaagtgaccc gc 22

<210> 31
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(22)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 10.

<400> 31
cgccagccga aggtgctgtc ag 22

<210> 32
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(22)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 10, 16, 17.

<400> 32
atgtagccaa aggtggaacc cc 22

<210> 33
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(22)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 5, 9, 10.

<400> 33
cgcccagtga aggtgctgtc ag 22

<210> 34
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(22)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 4.

<400> 34
cgcccagtag ctagtctgtc ag 22

<210> 35
<211> 15
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> misc_feature
<223> Description of Artificial Sequence: synthetic oligonucleotide

<400> 35
ggatccggtg gtctg 15

<210> 36
<211> 15
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> misc_feature
<223> Description of Artificial Sequence: synthetic oligonucleotide

<400> 36
cctactcgcg aattc 15

<210> 37
<211> 14
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(14)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 9, 10.

<400> 37
ccaggagatt ccac 14

<210> 38
<211> 14
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(14)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 3, 13.

<400> 38
gtggaatctc ctgg 14

<210> 39
<211> 14
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(14)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 4, 5, 10, 11.

<400> 39
ccaggagatt ccac 14

<210> 40
<211> 14
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(14)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 9, 11, 12.

<400> 40
gtggaatcyc cygg 14

<210> 41
<211> 30
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(30)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at position 1.

<400> 41
ccaggagatt ccacggatcc ggtggtctgt 30

<210> 42
<211> 45
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (16)..(16)

<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate.

<400> 42
cctactcgcg aattcccagg agattccacg gatccggtgg tctgt 45

<210> 43
<211> 14
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(14)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 5, 9, 13.

<400> 43
ccagtgactc agtg 14

<210> 44
<211> 14
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(14)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 4, 8, 12,

<400> 44
ggtcactgag tcac 14

<210> 45
<211> 14
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(14)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 10, 11.

<400> 45
ccaggagatt ccac 14

<210> 46
<211> 14
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(14)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 4, 7, 9, 14.

<400> 46
ggtcctctaa ggtg 14

<210> 47
<211> 14
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(14)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 10, 11.

<400> 47
ccaggagatt ccac 14

<210> 48
<211> 14
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(14)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 4, 7, 9, 14.

<400> 48
ggtcctctaa ggtg 14

<210> 49
<211> 24
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> misc_feature
<223> Description of artificial sequence: synthetic oligonucleotide

<400> 49
agttgagggg actttcccag gctt 24

<210> 50
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> misc_feature
<223> Description of artificial sequence: synthetic oligonucleotide

<400> 50
gcctgggaaa gtcccctcaa ct 22

<210> 51
<211> 14
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(14)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 10, 11.

<400> 51
ccaggagatt ccac 14

<210> 52
<211> 14
<212> DNA
<213> Artificial

<220>

<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(14)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 3, 7, 9, 13.

<400> 52
gtggaatctc ctgg 14

<210> 53
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(22)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 6, 10, 11, 17, 18

<400> 53
cgcccagtga aggtggaacc cc 22

<210> 54
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(22)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 9, 15.

<400> 54
ggggttccac cttcactggg cg 22

<210> 55
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(22)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 6, 10, 18.

<400> 55
cgcccagtga aggtggaacc cc 22

<210> 56
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(22)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 9, 15.

<400> 56
ggggttccac cttcactggg cg 22

<210> 57
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(22)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 6, 18.

<400> 57
cgcccagtga aggtggaacc cc 22

<210> 58
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(22)

<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 9, 15.

<400> 58
ggggttccac cttcactggg cg 22

<210> 59
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(22)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 6, 11, 12, 18, 19.

<400> 59
cgcccagtga aggtggaacc cc 22

<210> 60
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> misc_feature
<223> Description of artificial sequence: synthetic oligonucleotide

<400> 60
ggggttccac cttcactggg cg 22

<210> 61
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(22)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 6, 10, 18.

<400> 61
cgcccagtga aggtggaacc cc 22

<210> 62
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> misc_feature
<223> Description of artificial sequence: synthetic oligonucleotide

<400> 62
ggggttccac cttcactggg cg 22

<210> 63
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(22)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 6, 18.

<400> 63
cgcccagtga aggtggaacc cc 22

<210> 64
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> misc_feature
<223> Description of artificial sequence: synthetic oligonucleotide

<400> 64
ggggttccac cttcactggg cg 22

<210> 65
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> misc_feature
<223> Description of artificial sequence: synthetic oligonucleotide

<400> 65
cgcccagtga aggtggaacc cc 22

<210> 66
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic oligonucleotide.

<220>
<221> modified_base
<222> (1)..(22)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 9, 15.

<400> 66
ggggttccac cttcactggg cg 22

<210> 67
<211> 31
<212> RNA
<213> Artificial

<220>
<223> Artificial oligonucleotide.

<220>
<221> modified_base
<222> (1)..(31)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 19, 31, 33.

<400> 67
gauccugaaa cuguuuuaag guuggccgau c 31

<210> 68
<211> 31
<212> RNA
<213> Artificial

<220>
<223> Artificial oligonucleotide.

<220>
<221> modified_base
<222> (1)..(31)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31.

<400> 68
cuaggacuug gcacaaccgu cacacugcua u 31

<210> 69
<211> 61
<212> DNA
<213> Artificial

<220>
<223> Artificial oligonucleotide.

<220>
<221> modified_base
<222> (1)..(61)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31.

<400> 69
cctactcgcg aattccuagg acuuggcaca accgucacac ugcuagggat ccggtggtct 60

g 61

<210> 70
<211> 61
<212> DNA
<213> Artificial

<220>
<223> Artificial oligonucleotide.

<220>
<221> modified_base
<222> (1)..(61)
<223> wherein at least one nucleotide is an achiral thiophosphate or dithiophosphate at positions 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31.

<400> 70
cctactcgcg aattcgaucc ugaaacuguu uuaagguugg ccgaucggat ccggtggtct 60

g 61